ABSTRACT OF THE DISCLOSURE

A nucleotide sequence encoding the HIV regulatory protein NEF, REV or TAT or an immunologically active fragment thereof is inserted into a vector comprising papilloma virus nucleotide sequences necessary and sufficient for long-term persistence. The resulting vectors are self-replicating and have a high copy number. They express the HIV genes in high amounts for a long period of time. The vectors elicit both a humoral and cell-mediated immune response and are therefore potential DNA immunization vaccines against HIV. The invention is directed to said vectors and vaccines and to a method for preparing the vectors. The invention is further directed to a host cell comprising the vector, to the use of the vector in the manufacture of a vaccine and to a method of preventing or treating HIV.

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